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EXAMINER	
HWANG, JOON H	

ART UNIT	PAPER NUMBER
2166	

DATE MAILED: 11/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/785,044	ILIFF, EDWIN C.	
	Examiner	Art Unit	
	Joon H. Hwang	2166	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 September 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-47* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-47* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *4/21/06*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. The applicant amended claims 1, 5-6, and 9-13 and added new claims 18-47 in the amendment received on 9/6/06.

The claims 1-47 are pending.

Response to Arguments

2. Applicant's arguments with respect to claims 1, 6, 9, and 11 have been considered but are moot in view of the new ground(s) of rejection.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., Many of these symptoms may be the same or acceptably similar variations of each other) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

It is a well settled rule that a reference must be considered not only for what it expressly teaches, but also for what it fairly suggests. See *In re Burckel,* 592 F.2d 1175, 201 USPQ 67 (CCPA 1979) and *In re Lamberti*, 545 F.2d 747, 192 USPQ 278 (CCPA 1976) as well as *In re Bode,* 550 F.2d 656, 193 USPQ (CCPA 1977) which indicates such fair suggestions to unpreferred embodiments must be considered even if they were not illustrated. Additionally, it is an equally well settled rule that what a reference can be said to fairly suggest relates to the concepts fairly contained therein,

and is not limited by the specific structure chosen to illustrate such concepts. See *In re Bascom,* 230 F.2d 612, 109 USPQ 98 (CCPA 1956).

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. Claims 1-47 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

MPEP 2106 (II)(A) states:

> The claimed invention as a whole must accomplish a practical application. That is, it must produce a "useful, concrete and tangible result." *State Street*, 149 F.3d at 1373, 47 USPQ2d at 1601-02. The purpose of this requirement is to limit patent protection to inventions that possess a certain level of "real world" value, as opposed to subject matter that represents nothing more than an idea or concept, or is simply a starting point for future investigation or research (*Brenner v. Manson*, 383 U.S. 519, 528-36, 148 USPQ 689, 693-96); *In re Ziegler*, 992, F.2d 1197, 1200-03, 26 USPQ2d 1600, 1603-06 (Fed. Cir. 1993)). Accordingly, a complete disclosure should contain some indication of the practical application for the claimed invention, i.e., why the applicant believes the claimed invention is useful.
>
> Apart from the utility requirement of 35 U.S.C. **101**, usefulness under the patent eligibility standard requires significant functionality to be present to satisfy the useful result aspect of the practical application requirement. See *Arrhythmia*, 958 F.2d at 1057, 22 USPQ2d at 1036. Merely claiming nonfunctional descriptive material stored in a computer-readable medium does not make the invention eligible for patenting. For example, a claim directed to a word processing file stored on a disk may satisfy the utility requirement of 35 U.S.C. **101** since the information stored may have some "real world" value. However, the mere fact that the claim may satisfy the utility requirement of 35 U.S.C. **101** does not mean that a useful result is achieved under the practical application requirement. The claimed invention as a whole must produce a "useful, concrete and tangible" result to have a practical application.

"A method of reuse of medical script objects" in 1st line of claim 1 doe not produce a "useful, concrete, and **tangible**" result. Merely claiming providing a plurality

of disease objects and assigning a weight for each symptom are not sufficient enough to produce a "useful, concrete, and **tangible**" result for "A method of reuse of medical script objects". Claims 2-5, 18-19, and 45-47 are likewise rejected.

"An object based automated computer-implemented diagnostic system" in 1st line of claim 6 doe not produce a "useful, concrete, and **tangible**" result. Merely claiming the system comprising a plurality of objects which interact to determine a diagnosis of a patient are not sufficient enough to produce a "useful, concrete, and **tangible**" result for "An object based automated computer-implemented diagnostic system". Claims 7-8 and 20-30 are likewise rejected.

"An object based automated diagnostic system" in 1st line of claim 9 doe not produce a "useful, concrete, and **tangible**" result. Merely claiming the system comprising a plurality of objects which interact to determine a diagnosis of a patient are not sufficient enough to produce a "useful, concrete, and **tangible**" result for "An object based automated diagnostic system". The claim also lacks the necessary physical articles or objects to constitute a machine or a manufacture within the meaning of §101. Claims 10 and 31-42 are likewise rejected.

"A computer-implemented method of reuse of medical script objects" in 1st line of claim 11 doe not produce a "useful, concrete, and **tangible**" result. Merely claiming providing a plurality of disease objects and assigning a weight for each symptom are not sufficient enough to produce a "useful, concrete, and **tangible**" result for "A computer-implemented method of reuse of medical script objects". Claims 12-17 and 43-44 are likewise rejected.

Claim Rejections - 35 USC § 102

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. Claims 6-9, 20-27, 29-38, and 40-42 are rejected under 35 U.S.C. 102(b) as being anticipated by Iliff (U.S. Patent No. 5,868,669).

With respect to claim 6, Iliff teaches an object based automated computer-implemented diagnostic system comprising a plurality of objects which interact to determine a diagnosis of a patient, wherein the objects include at least two of: a disease object, a symptom object, a valuator object, a question object, a node object, and a candidate object (i.e., diagnosises and symptoms, each diagnosis associated with symptoms in MDATA system, lines 24-35 in col. 12, lines 38-45 in col. 21, and line 24 in col. 35 thru line 49 in col. 42, the MDATA system is written in object-oriented program language, such as C++, lines 7-16 in col. 14, therefore teaching object), wherein the objects are arranged in a hierarchical relationship such that the result of one of the objects is input to another of the objects (i.e., a directed graph of a node map, line 64 in col. 14 thru line 24 in col. 15, and process of initial screening questions to migraine screening questions and to migraine confirmation questions, lines 25-44 in col. 35, lines 61-67 in col. 39, and lines 18-25 in col. 40).

With respect to claim 7, Iliff teaches the objects include a plurality of disease objects and a plurality of symptom objects (i.e., diagnosises and symptoms, each diagnosis associated with symptoms in MDATA system, lines 24-35 in col. 12, lines 38-

45 in col. 21, and line 24 in col. 35 thru line 49 in col. 42, the MDATA system is written in object-oriented program language, such as C++, lines 7-16 in col. 14, therefore teaching object).

With respect to claim 8, Iliff teaches an engine object to coordinate the other objects (i.e., a node map, lines 1-7 in col. 15 and evaluation process 254 in fig. 6).

With respect to claim 9, Iliff teaches an object based automated diagnostic system comprising a plurality of objects, wherein the objects include at least a plurality of disease objects, a plurality of symptom objects, and a plurality of valuator objects, and wherein at least some of the objects perform their own tasks and call upon other objects to perform their tasks at the appropriate time (i.e., diagnosis, symptoms, and evaluation processes, each diagnosis associated with symptoms in MDATA system, lines 24-35 in col. 12, lines 38-45 in col. 21, lines 36-41 in col. 39, line 24 in col. 35 thru line 49 in col. 42, and lines 24-37 in col. 18, the MDATA system is written in object-oriented program language, such as C++, lines 7-16 in col. 14, therefore teaching object).

With respect to claim 20, Iliff teaches the objects include a disease object (i.e., migraine object, lines 53-60 in col. 39), a symptom object (i.e., headache, lines 53-60 in col. 39), a valuator object (i.e., evaluation process 254, lines 36-41 in col. 39), a question object (i.e., questions, lines 41-52 in col. 39), a node object (i.e., interface to a client 124 in fig. 4), and a candidate object (i.e., ranked lists, lines 12-35 in col. 39).

With respect to claim 21, Iliff teaches the symptom object invokes the valuator object (i.e., the results of symptoms are evaluated, lines 53-60 in col. 39).

With respect to claim 22, Iliff teaches the valuator object invokes the question object (i.e., another screen questions are invoked after the evaluation, line 53 in col. 39 thru line 12 in col. 40).

With respect to claim 23, Iliff teaches the question object invokes the node object (i.e., another screen questions are asked to the user, line 53 in col. 39 thru line 12 in col. 40).

With respect to claim 24, Iliff teaches a particular disease is associated with a plurality of disease objects corresponding to different phases of the particular disease (i.e., stages of illness, lines 31-42 in col. 1).

With respect to claim 25, Iliff teaches a particular disease is associated with a plurality of disease objects corresponding to different populations for the particular disease (lines 22-28 in col. 47).

With respect to claim 26, Iliff teaches a particular disease object is representative of a plurality of related diseases that share common symptoms (i.e., meningitis and brain tumor shares headache, lines 11-26 in col. 41).

With respect to claim 27, Iliff teaches the objects act independently of other objects and a particular object retains a record of its actions for future reference (lines 37-47 in col. 13 and lines 24-44 in col. 18).

With respect to claim 29, Iliff teaches a particular disease object monitors the questions and answers of other disease objects (lines 11-26 in col. 41 and lines 43-46 in col. 40).

With respect to claim 30, Iliff teaches the engine object coordinates a plurality of

concurrently operating disease objects by switching execution among the disease objects (i.e., excluding diseases from diagnostic consideration, lines 11-26 in col. 41 and lines 43-46 in col. 40).

The limitations of claim 31 are rejected in the analysis of claim 21 above, and the claim is rejected on that basis.

The limitations of claim 32 are rejected in the analysis of claim 20 above, and the claim is rejected on that basis.

The limitations of claim 33 are rejected in the analysis of claim 22 above, and the claim is rejected on that basis.

The limitations of claim 34 are rejected in the analysis of claim 23 above, and the claim is rejected on that basis.

The limitations of claim 35 are rejected in the analysis of claim 24 above, and the claim is rejected on that basis.

The limitations of claim 36 are rejected in the analysis of claim 25 above, and the claim is rejected on that basis.

The limitations of claim 37 are rejected in the analysis of claim 26 above, and the claim is rejected on that basis.

The limitations of claim 38 are rejected in the analysis of claim 27 above, and the claim is rejected on that basis.

The limitations of claim 40 are rejected in the analysis of claim 29 above, and the claim is rejected on that basis.

The limitations of claim 41 are rejected in the analysis of claim 8 above, and the

claim is rejected on that basis.

The limitations of claim 42 are rejected in the analysis of claim 30 above, and the claim is rejected on that basis.

Claim Rejections - 35 USC § 103

6. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

7. Claims 1, 3-5, 10-13, 15-19, and 43-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iliff (U.S. Patent No. 5,868,669) in view of Gray (U.S. Patent No. 6,149,585).

With respect to claim 1, Iliff teaches providing a plurality of disease objects, each disease object associated with a plurality of symptom objects (i.e., diagnosises and symptoms, each diagnosis associated with symptoms in MDATA system, lines 24-35 in col. 12, lines 38-45 in col. 21, and line 24 in col. 35 thru line 49 in col. 42, the MDATA system is written in object-oriented program language, such as C++, lines 7-16 in col. 14, therefore teaching object). Iliff teaches assigning a weight for each symptom (i.e., weighted symptom questions, lines 24-34 in col. 60, lines 45-48 in col. 61, and lines 28-39 in col. 62). Iliff teaches alternative symptoms for a particular preferred symptom are selected from a set of archived symptoms objects that are available for reuse (i.e., symptoms of headache, lines 6-29 in col. 13, fig. 6, and lines 36-57 in col. 39). Iliff does not explicitly disclose a preferred weight and an alternative weight. However, Gray discloses a plurality of disease associated with a plurality of symptoms in a medical

diagnostic enhancement system (lines 7-24 in col. 6 and line 23 in col. 2 thru line 41 in col. 3). Gray also discloses assigning a weight for each symptom, wherein a particular disease includes a preferred weight for one or more preferred symptoms and an alternative weight for one or more alternative symptoms, wherein the alternative symptoms are selected from a set of symptoms (lines 25-48 in col. 6). Therefore, based on Iliff in view of Gray, it would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the teaching of Gray to the system of Iliff in order to present an accurate diagnosis.

With respect to claim 3, Iliff teaches the set of archived symptom objects is stored in a database (fig. 1, fig. 3, and fig. 6).

With respect to claim 4, Iliff teaches accessing the set of archived symptom objects stored in the database via a global computer network (fig. 1).

With respect to claim 5, Iliff teaches each symptom object has underlying objects used to establish a symptom (i.e., a node map, lines 1-7 in col. 15), wherein the objects are arranged in a hierarchical relationship (i.e., a directed graph of a node map, line 64 in col. 14 thru line 24 in col. 15).

With respect to claim 10, Iliff discloses the claimed subject matter as discussed above. Iliff further teaches one or more alternative symptoms of a preferred symptom (i.e., symptoms of headache, lines 36-57 in col. 39). Iliff does not explicitly disclose a preferred weight and an alternative weight. However, Gray discloses a plurality of disease associated with a plurality of symptoms in a medical diagnostic enhancement system (lines 7-24 in col. 6 and line 23 in col. 2 thru line 41 in col. 3). Gray also

discloses assigning a weight for each symptom, wherein a particular disease includes a preferred weight for one or more preferred symptoms and an alternative weight for one or more alternative symptoms (lines 25-48 in col. 6). Therefore, based on Iliff in view of Gray, it would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the teaching of Gray to the system of Iliff in order to present an accurate diagnosis.

With respect to claim 11, Iliff teaches providing a plurality of disease objects, each disease object associated with a plurality of symptom objects (i.e., diagnosises and symptoms, each diagnosis associated with symptoms in MDATA system, lines 24-35 in col. 12, lines 38-45 in col. 21, and line 24 in col. 35 thru line 49 in col. 42, the MDATA system is written in object-oriented program language, such as C++, lines 7-16 in col. 14, therefore teaching object). Iliff teaches assigning a weight for each symptom (i.e., weighted symptom questions, lines 24-34 in col. 60, lines 45-48 in col. 61, and lines 28-39 in col. 62). Iliff teaches symptoms are selected from a set of archived symptoms objects that are available for reuse (lines 6-29 in col. 13 and fig. 6). Iliff teaches a particular preferred symptom has one or more related alternative symptoms that represent different approaches for eliciting further diagnostic information related to a same patient health condition (i.e., symptoms of headache, lines 36-57 in col. 39). Iliff does not explicitly disclose a preferred weight and an alternative weight. However, Gray discloses a plurality of disease associated with a plurality of symptoms in a medical diagnostic enhancement system (lines 7-24 in col. 6 and line 23 in col. 2 thru line 41 in col. 3). Gray also discloses assigning a weight for each symptom, wherein a

particular disease includes a preferred weight for one or more preferred symptoms and an alternative weight for one or more alternative symptoms, wherein the alternative symptoms are selected from a set of symptoms (lines 25-48 in col. 6). Therefore, based on Iliff in view of Gray, it would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the teaching of Gray to the system of Iliff in order to present an accurate diagnosis.

With respect to claim 12, Gray further teaches weights can be different (lines 25-48 in col. 6). Therefore, the limitations of claim 12 are rejected in the analysis of claim 11 above, and the claim is rejected on that basis.

With respect to claim 13, Gray further teaches weights can be different (lines 25-48 in col. 6). Therefore, the limitations of claim 13 are rejected in the analysis of claim 12 above, and the claim is rejected on that basis.

With respect to claim 15, Iliff teaches the set of archived symptom objects is stored in a database (fig. 1, fig. 3, and fig. 6).

With respect to claim 16, Iliff teaches accessing the set of archived symptom objects stored in the database via a global computer network (fig. 1).

With respect to claim 17, Iliff teaches each symptom object has underlying objects used to establish a symptom (i.e., a node map, lines 1-7 in col. 15).

With respect to claim 18, Iliff teaches the reuse includes using one of the archived symptom objects in conjunction with a plurality of disease objects (lines 36-52 in col. 39).

With respect to claim 19, Iliff teaches a particular preferred symptom is selected

when a particular diagnosis is likely (lines 36-52 in col. 39).

The limitations of claim 43 are rejected in the analysis of claim 18 above, and the claim is rejected on that basis.

The limitations of claim 44 are rejected in the analysis of claim 19 above, and the claim is rejected on that basis.

With respect to claim 45, Iliff teaches a particular disease is associated with a plurality of disease objects corresponding to different phases of the particular disease (i.e., stages of illness, lines 31-42 in col. 1).

With respect to claim 46, Iliff teaches a particular disease is associated with a plurality of disease objects corresponding to different populations for the particular disease (lines 22-28 in col. 47).

With respect to claim 47, Iliff teaches a particular disease object is representative of a plurality of related diseases that share common symptoms (i.e., meningitis and brain tumor shares headache, lines 11-26 in col. 41).

8. Claims 2 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iliff (U.S. Patent No. 5,868,669) in view of Gray (U.S. Patent No. 6,149,585), and further in view of Branson et al. (U.S. Patent No. 6,598,035).

With respect to claim 2, Iliff and Gray disclose the claimed subject matter as discussed above except assigning a new name for a symptom object that is reused. However, Branson teaches assigning a new name for a symptom object that is reused (fig. 16 and lines 17-39 in col. 20) in order to provide customization and extension of an

object (lines 21-57 in col. 4). Therefore, based on Iliff in view of Gray, and further in view of Branson, it would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the teaching of Branson to the system of Iliff in order to provide customization and extension of an object.

The limitations of claim 14 are rejected in the analysis of claim 2 above, and the claim is rejected on that basis.

9. Claims 28 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iliff (U.S. Patent No. 5,868,669) in view of Branson et al. (U.S. Patent No. 6,598,035).

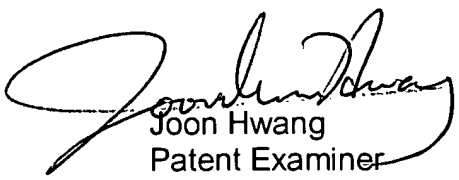
With respect to claim 28, Iliff discloses the claimed subject matter as discussed above except encapsulation of data. However, Branson teaches each object has corresponding data and processes, and wherein the data is encapsulated so that other objects only see the processes of a particular object that can be invoked to access the data (lines 39-50 in col. 6, lines 26-34 in col. 12, and lines 23-31 in col. 15) in order to maintain the integrity of the data. Therefore, based on Iliff in view of Branson, it would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the teaching of Branson to the system of Iliff in order to maintain the integrity of data of an object.

The limitations of claim 39 are rejected in the analysis of claim 28 above, and the claim is rejected on that basis.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joon H. Hwang whose telephone number is 571-272-4036. The examiner can normally be reached on 9:30-6:00(M~F).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hosain T. Alam can be reached on 571-272-3978. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



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11/22/06